



BUILDINGS BULLETIN 2011-015

Technical

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Purpose: This document clarifies conditions under which an addition, alteration, renovation or repair to a building envelope may not be required to comply with the New York City Energy Conservation Code (NYCECC), pursuant to section NYCECC 101.4.3.

Related Code	NYCECC 101.2.4	ASHRAE 90.1	Section 5
Section(s):	NYCECC 101.4.3	1 RCNY	5000-01
	NYCECC 402		
	NYCECC 502		
	NYCBC 3202.2.1		

Subject(s): Additions, building envelope; Alterations, building envelope; Renovations, building envelope; Repairs, building envelope; Energy Code, existing building thermal envelope; Energy Code, roof, ; Energy Code, existing exterior wall; Energy Code, existing curtain wall; Energy Code, existing frame wall; Energy Code, existing masonry wall; Energy Code, existing basement wall; Energy Code, existing slab-on-grade; Energy Code, existing doors; Energy Code, existing windows; Energy Code, existing skylights; New York City Energy Conservation Code; Energy Code.

In accordance with Sections 101.4.3, 402, 502 of the NYCECC, and Section 5 of ASHRAE 90.1, additions, alterations, renovations and/or repairs made to a building envelope shall comply with this bulletin, provided that the energy use of the building is not increased.

- 1. Definitions.** Terms used in this bulletin shall have the same meanings as set forth in Chapter 2 of the NYCECC, 1 RCNY 5000-01 and, for the purposes of this bulletin only, as follows:
 - a. Roof plane.** A single plane of a roof assembly, whether at the top of a building or a roof setback, limited by a ridge, edge, wall, parapet or rail. Such roof plane is part of the envelope system and encloses conditioned space.
 - b. Wall plane.** A single plane of an exterior wall assembly, from exterior corner to exterior corner, and foundation to roof plate or deck, inclusive of defining structural elements.
- 2. Exceptions to the requirement to comply with the provisions of the NYCECC related to building envelopes.** Refer to Exceptions 1 through 6 under Section 101.4.3 of the NYCECC for relief for certain alterations, renovations and/or repairs to the existing building thermal envelope from the requirement to

comply with the NYCECC provisions for new buildings, providing the energy use of the building is not increased.

- 3. Interpretation of Section 101.4.3 of the NYCECC with regard to additions, alterations, renovations or repairs to building thermal envelopes.** For additions, refer to Section 101.4.3 of the NYCECC. For alterations, renovations or repairs to building thermal envelopes, the NYCECC and this bulletin shall apply: However, in accordance with Section 101.4.3 of the NYCECC, certain types of alteration, renovation or repair work related to the building thermal envelope need not comply with the provisions of the NYCECC if the applicant can demonstrate that such NYCECC compliance would create a hazardous or unsafe condition or would overload an existing building system.

In all cases, including 3a, b, c, d, or e below, where the scope of work affects only a portion of a building thermal envelope element, and the registered design professional determines that the installation of insulation in only that portion would create conditions such as freeze-thaw and cracking of the element, or condensation or mold in or around the element, the insulation of that portion may be omitted or limited to the original thermal value as applicable. In no case shall an alteration, renovation or repair increase the energy use of the building.

a. Roofs, including roof setbacks. For roof alterations, renovations or repairs, the following shall apply:

- i. Sheathing not exposed. Refer to Section 101.4.3, Exception 5 of the NYCECC.
- ii. Sheathing or decking exposed. Where alterations, renovations or repairs performed on a roof or roof setback expose the sheathing or decking, insulation shall be required either above or below the sheathing or decking in accordance with Section 101.4.3, Exception 5 of the NYCECC. This may require construction at the parapet, bulkhead, etc., to meet New York City Building Code (“NYCBC”) requirements. However, if provisions of the New York City Zoning Resolution preclude insulating above the sheathing or decking and there is a practical difficulty with insulating below the sheathing or deck, insulation of such roof plane shall not be required; in such a case, the applicant shall provide other measures to mitigate the calculated thermal loss of the noncompliant roof repair, in either site energy or the calculated energy cost.

b. Ceilings under unconditioned roof attics. Where the ceiling below an unconditioned roof attic or the floor of such unconditioned attic is replaced, such ceiling/floor shall be insulated in accordance with the NYCECC. However, if there is a practical difficulty with insulating the entire plane, insulation of the plane shall not be required; in such a case, the applicant shall provide other measures to mitigate the calculated thermal loss of the noncompliant replacement area, in either site energy or the calculated energy cost.

c. Above-grade walls.

- i. Masonry or framed walls. Refer to Section 101.4.3, including but not limited to Exceptions 1, 2, 3 and/or 4, of the NYCECC.
- ii. Curtain wall.
 - A. Panels. Replacement of curtain wall vision panels shall be treated as window replacements and shall comply with the fenestration provisions of the NYCECC. Non-vision panels shall be treated as opaque panel replacements and shall comply with the provisions for opaque walls.
 - B. Glazing. Glass-only replacements within curtain wall panels-to-remain shall be treated as glazing replacements and, in accordance with Section 101.4.3, Exception 2 of the NYCECC, do not need to comply with the code, providing the energy use of the building is not increased.
 - C. Alternate approach. If there is a practical difficulty in matching new vision or insulated panels to existing panel structure and framing, the applicant shall provide

other measures to mitigate the calculated thermal loss of noncompliant replacement panels, in either site energy or the calculated energy cost.

- d. **Below-grade wall.** If the scope of work exposes the interior or exterior of below-grade walls, the exposed portion of such walls shall be insulated to the depth below the new grade required by the NYCECC, and with a thermal value in accordance with the NYCECC.
 - e. **Slab-on-grade.** If the scope of work exposes the exterior edge conditions of a slab-on-grade, or includes the replacement of a part or all of a slab-on-grade, such exposed edge conditions shall be insulated in accordance with the NYCECC. If there is a practical difficulty with insulating the slab-on-grade edges, insulation of the edges shall not be required; in such a case, the applicant shall provide other measures to mitigate the calculated thermal loss of the non-insulated slab edge in either site energy or the calculated energy cost.
4. **Interior renovations.** Where the interior finish of the exterior wall is removed as part of the scope of work in a room or space, such interior face shall be insulated in accordance with the NYCECC. **Exception:** Where installation of required insulation would decrease the height or size of the room below the minimum height or size required by the New York City Building Code or New York State Multiple Dwelling Law, as applicable, such insulation may be reduced so that such room or space meets the minimum height and size requirements.
 5. **Sunrooms and greenhouses.** Where a sunroom or greenhouse addition is conditioned, or where a sunroom or greenhouse is connected to conditioned space through a permanent opening, such sunroom and/or greenhouse shall comply with the requirements of the NYCECC for new construction. Where a sunroom or greenhouse addition is unconditioned, it may be added to an existing building provided that any new openings between the two have windows and/or doors complying with the NYCECC as thermal envelope elements.
 6. **Insulating rainscreens.** Rainscreens installed away from the property line shall be insulating rainscreens. Rainscreens installed beyond the street line on uninsulated building walls erected prior to December 6, 1968, in accordance with Section 27-313 of the 1968 Code, shall not be required to be insulating rainscreens if such insulating rainscreens would exceed the limits of such provision.
 7. **Sealing.** All envelope work, including work performed on the exterior wall of interior renovations, shall be sealed in accordance with Section 402.4 and/or 502.4 of the NYCECC.
 8. **Zoning and property line conflicts.** Where insulating an existing roof, wall or foundation plane in accordance with the NYCECC would extend over the lot line or street line, or would penetrate the maximum permitted zoning envelope, and where the NYCECC, 1 RCNY 5000-01 or this bulletin would otherwise require insulation, either such wall or foundation plane shall be insulated from the inside of the building or the applicant shall provide other measures to mitigate the calculated heat loss, in site energy or the calculated energy cost.
 9. **Trade-offs.** Where the envelope has previously been used in trade-offs to compensate for energy use exceeding NYCECC allowance in any system or unit outside of the scope of work, alterations to such envelope shall not reduce the thermal resistance of the envelope unless the building undergoes energy modeling to demonstrate whole-building compliance with the NYCECC.